REMARKS

This is in response to the Office Action mailed March 24, 2004, and is accompanied by a request for a three-month extension of time.

Applicant notes with appreciation the withdrawal of all of the rejections made in the September 25, 2003 Action, and the allowance of claims 14-28.

The Action indicates that claims 1-28 are the only pending claims, but that is incorrect. Applicant respectfully submits that claims 1-30 were pending prior to the present amendment. Claims 29-30 were added in the Amendment filed January 25, 2001 (copy attached as Tab A), and each Office Action since then has acknowledged the pendency of claims 29-30 (April 10, 2001 Action at 1 and 2; December 31, 2001 Action at 1 and 2; May 24, 2002 Action at 1 and 2; October 21, 2002 Action at 1 and 2; February 20, 2003 Action at 1 and 2; and September 25, 2003 Action at 1 and 2) and has entered rejections against them. Claims 29-30 have been neither withdrawn nor amended since they were presented on January 25, 2001.

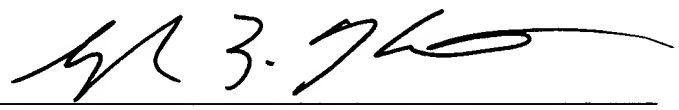
In response to the Examiner's request, attached (Tab

B) is a clean copy of the claims pending prior to the present amendment. Applicant notes that because claim 30 depends from allowed claim 14, claim 30 is likewise allowable.

By virtue of the present amendment, and solely in order to advance prosecution of the present application, all of the claims under rejection have been canceled. Applicant reserves the right to present the subject matter of the canceled claims in a continuing application.

Applicant submits that the present application is in condition for allowance. Reconsideration and favorable action are earnestly requested.

Respectfully submitted,



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
F. CESARE	)	
	)	
Serial No. 09/138,926	)	Examiner: S. Nolan
	)	
Filed: August 24, 1998	)	Group Art Unit: 1772
	)	
For: LOW MOLECULAR WEIGHT POLYMERS AND THEIR USE AS DISPERSION AIDS	)	

AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Please amend the above-identified application as follows:

IN THE CLAIMS

Please amend claims 1 and 10-14 as follows:

--1. (Twice Amended) A polymer formed from monomers comprising ethylene; CH_2=CHQ wherein Q is C_1-C_8 alkyl; and optionally a non-conjugated polyene; wherein

a) ethylene is present in an amount of from [about] 67% to about 75% by weight;

b) the non-conjugated polyene is present in an amount of from about 0% to about 30% by weight; and

c) CH_2=CHQ is present in an amount of from about 15% to about 40% by weight;

said polymer having a viscosity average molecular weight of from about 4,000 to about 30,000 and being a solid at room temperature.--

--10. (Amended) A composition which comprises the [The] polymer of claim 1, [wherein said polymer further comprises] and a reinforcing agent.--

--11. (Amended) The [polymer] composition of claim 10, wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof.--

--12. (Amended) The [polymer] composition of claim 11, wherein the reinforcing agent comprises aramid fibers.--

--13. (Amended) The [polymer] composition of claim 10, wherein the reinforcing agent is present in an amount of up to about 70% by weight.--

--14. (Twice Amended) A composition which comprises:

a) a polymer formed from monomers comprising ethylene; CH_2=CHQ wherein Q is C_1-C_8 alkyl; and optionally a non-conjugated polyene; wherein

i) ethylene is present in an amount of from [about] 67% to about 75% by weight;

ii) the polyene is present in an amount of from about 0% to about 30% by weight; and

iii) CH_2=CHQ is present in an amount of from about 15% to about 40% by weight;

said polymer having a viscosity average molecular weight of from about 4,000 to about 30,000 and being a solid at room temperature;

b) a reinforcing agent; and

c) a high molecular weight polymer.--

Please add the following additional claims:

--29. The polymer of claim 1, wherein ethylene is present in an amount of from about 71% to about 75% by weight.--

--30. The composition of claim 14, wherein ethylene is present in an amount of from about 71% to about 75% by weight in the a) component polymer.--

REMARKS

This is in response to the Office Action mailed September 25, 2000, and is accompanied by a petition for a one-month extension of time. If any fees are occasioned by the filing of this paper, please charge the same to Deposit Account No. 02-2135.

Claims 29 and 30 are added to further specify the ethylene content of the low molecular weight material. Support for the range of about 71% to about 75% is in claim 1, and also, *e.g.*, Example 1 (71%).

35 U.S.C. §112, second paragraph

Reconsideration and withdrawal of the rejection of claims 10-13 under 35 U.S.C. §112, second paragraph, are respectfully requested. Those claims have been amended to recite that the two component mixture is a "composition". The Examiner is thanked for her helpful suggestion in this regard.

35 U.S.C. §102

Reconsideration and withdrawal of the rejection of claims 1-7 and 9 under 35 U.S.C. §102(b) as being anticipated by Gros are respectfully requested. Applicant respectfully submits that Gros does not anticipate any of those claims.

Gros discloses blends of high and low molecular weight materials which are said to have increased hot and cold processability. Notably, Gros does not disclose any low molecular weight polymer having the relative amounts of monomer components recited in claim 1. The disclosure of molar ratios at column 3, lines 22-36 appears to be directed to the final low/high molecular weight blend. Moreover, Examples 3 and 4 of Gros appear to be directed to the low molecular weight materials, but in each instance, the polymer contained less ethylene than presently claimed (59 mole% in Example 3; 66 mole% in Example 4). In contrast, claim 1 recites a lower limit of 67 mole%. Moreover, new claims 29 and 30 specify an ethylene content of from about 71% to about 75%. Thus, Gros cannot anticipate any of the present claims.

Moreover, regarding claim 9, Gros does not mention the needle penetration test recited in that claim. The Examiner is apparently of the view that since Gros'

polymers are solids, then they would inherently have the claim 9 property. Applicant respectfully traverses. Applicant does not admit that any low molecular weight material in Gros is a solid. But even if some of them were solid, it still would not follow that they would necessarily meet claim 9, and in view of the foregoing, it cannot be assumed that the Gros low molecular weight material would inherently meet claim 9.

35 U.S.C. §103

Reconsideration and withdrawal of the rejection of claim 8 under 35 U.S.C. §103(a) as being unpatentable over Gros are respectfully requested.

The Action admits that Gros does not teach the viscosity average molecular weight recited in claim 8, but nonetheless rejects that claim based on that reference, allegedly since lower molecular weight molecules would be easily dispersed. Applicant respectfully submits that there is no motivation evident from Gros to make applicant's modification, and that the rejection cannot stand.

As reflected in the Examiner's admission, Gros indeed does not suggest modifying the molecular weight of its low molecular weight component material for any reason. The

Examiner does not specify the source of the alleged motivation. If the source is general knowledge in the art, there is still nothing evident from Gros that making the modification would be desirable or even successful. Gros describes a number of potential modifications to its blended product, such as relative amounts of high and low molecular weight materials, changes in ethylene content, *etc.* (see col. 5, lines 52-67), but is silent as to modifying the molecular weight of the low molecular weight component. That silence in the face of suggestions to modify other parameters is effectively a teaching away from molecular weight modification.

Reconsideration and withdrawal of the rejection of claims 11-28[1] under 35 U.S.C. §103(a) as being unpatentable over Frances in view of Gros are respectfully requested.

Frances is directed to the production of particulate elastomeric compositions which may be used to incorporate aramid pulp into elastomers. The aramid pulp is first mixed with a reinforcing filler, to which is added a *solution* of elastomer in an organic solvent. That mixture is preferably dried to remove the solvent, leaving an elastomeric composition which may be used as is, or for

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[1]The Action does not specifically include claim 10 in this rejection. However, the comments herein apply to that claim as well.

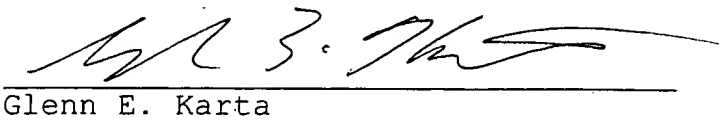
blending the aramid pulp into the same or a different elastomer (column 1, line 44-column 2, line 5). In all examples, the aramid pulp was premixed with a solution of some sort of rubber (natural, Neoprene or SBR) in toluene.

The Action admits that Frances does not disclose the presently claimed low molecular weight materials, and relies on Gros to fill in that gap. However, since Gros neither discloses nor renders obvious the claimed low molecular weight polymers (see above), it cannot fill in that gap in Frances and no *prima facie* case is made out.

Moreover, in all instances, Frances preblended aramid fibers with an elastomeric material dissolved in an organic solvent. There is no indication in Frances that preblending with the low molecular weight material of the present claims would be desirable or successful. Further, as Gros is not directed to aramid fibers at all, it cannot supply the missing motivation. That motivation is supplied only by applicant's specification, which of course is not prior art.

Applicants submit that the present application is now in condition for allowance. Reconsideration and favorable action are earnestly requested.

Respectfully submitted,



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APPLICATION NO. 09/138,926

CLAIMS PENDING PRIOR TO SEPTEMBER 21, 2004 AMENDMENT

1. A polymer formed from monomers comprising ethylene; CH_2=CHQ wherein Q is C_1-C_8 alkyl; and optionally a non-conjugated polyene; wherein

a) ethylene is present in an amount of from 67% to about 75% by weight;

b) the non-conjugated polyene is present in an amount of from about 0% to about 30% by weight; and

c) CH_2=CHQ is present in an amount of from about 15% to about 40% by weight;

said polymer having a viscosity average molecular weight of from about 4,000 to about 30,000 and being a solid at room temperature, with the proviso that the sum of components a), b) and c) totals 100% by weight.

2. The polymer of claim 1, wherein the non-conjugated polyene is selected from the group consisting of 5-ethylidene-2-norbornene, 1,4-hexadiene and dicyclopentadiene.

3. The polymer of claim 2, wherein Q is methyl.

4. The polymer of claim 3, wherein the polyene component is present in an amount of from about 1% to about 20% by weight.

5. The polymer of claim 4, wherein the polyene component is present in an amount of from about 3% to about 15% by weight.

6. The polymer of claim 1, wherein the CH_2=CHQ component is present in an amount of from about 20% to about 35% by weight.

7. The polymer of claim 6, wherein the CH_2=CHQ component is present in an amount of from about 22% to about 30% by weight.

8. The polymer of claim 1, wherein the polymer has a viscosity average molecular weight of from about 5,000 to about 10,000.

9. The polymer of claim 1, wherein the polymer yields about 10 mm or less in a needle penetration test.

10. A composition which comprises the polymer of claim 1, and a reinforcing agent.

11. The composition of claim 10, wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof.

12. The composition of claim 11, wherein the reinforcing

agent comprises aramid fibers.

13. The composition of claim 10, wherein the reinforcing agent is present in an amount of up to about 70% by weight.

14. A composition which comprises:

a) a polymer formed from monomers comprising ethylene; CH_2=CHQ wherein Q is C_1-C_8 alkyl; and optionally a non-conjugated polyene; wherein

i) ethylene is present in an amount of from 67% to about 75% by weight;

ii) the polyene is present in an amount of from about 0% to about 30% by weight; and

iii) CH_2=CHQ is present in an amount of from about 15% to about 40% by weight;

said polymer having a viscosity average molecular weight of from about 4,000 to about 30,000 and being a solid at room temperature, with the proviso that the sum of components i), ii) and iii) within said polymer totals 100% by weight;

b) a reinforcing agent; and

c) a high molecular weight polymer.

15. The composition of claim 14, wherein the non-conjugated polyene is selected from the group consisting of 5-ethylidene-2-

norbornene, 1,4-hexadiene and dicyclopentadiene.

16. The composition of claim 15, wherein Q is methyl.

17. The composition of claim 16, wherein the polyene component is present in an amount of from about 1% to about 20% by weight.

18. The composition of claim 17, wherein the polyene component is present in an amount of from about 3% to about 15% by weight.

19. The composition of claim 14, wherein the CH_2=CHQ component is present in an amount of from about 20% to about 35% by weight.

20. The composition of claim 19, wherein the CH_2=CHQ component is present in an amount of from about 22% to about 30% by weight.

21. The composition of claim 14, wherein the polymer of part a) has a viscosity average molecular weight of from about 5,000 to about 10,000.

22. The composition of claim 14, wherein the polymer of part a) yields about 10 mm or less in a needle penetration test.

23. The composition of claim 14, wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof.

24. The composition of claim 23, wherein the reinforcing agent comprises aramid fibers.

25. The composition of claim 14, wherein the high molecular weight polymer is selected from the group consisting of natural rubber and synthetic rubber.

26. The composition of claim 25, wherein the synthetic rubber is selected from the group consisting of ethylene/alphaolefin/nonconjugated polyene (EPDM) rubbers, styrene/butadiene rubbers, acrylonitrile/ butadiene (NBR) rubbers, polychloroprene and sulfur modified polychloroprene, and polybutadiene rubbers.

27. A moulded article made from the composition of claim 14.

28. The article of claim 27, wherein the article is selected from the group consisting of a v-belt, a timing belt, a conveyor belt, a drive belt, a hose, a seal, a diaphragm, a cable and a roll cover.

29. The polymer of claim 1, wherein ethylene is present in an amount of from about 71% to about 75% by weight.

30. The composition of claim 14, wherein ethylene is present in an amount of from about 71% to about 75% by weight in the a) component polymer.